BRIDALVEIL CREEK BRIDGE
Yosemite National Park Roads and Bridges
Spanning Bridalveil Creek on Glacier Point Road
Yosemite National Park
Mariposa County
California

HAER NO. CA-103

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
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I. INTRODUCTION

Location:	Bridalveil Creek Bridge carries the Glacier Point Road across Bridalveil Creek in Yosemite National Park, Mariposa County, California. Quad: El Capitan, CA UTMs: 11/269320/4171850
Date of Construction:	1933
Designer and Builder:	Designed the San Francisco district office of the Bureau of Public Roads. Contractors: Nelson and Wallace
Original and Present Owner:	Yosemite National Park, National Park Service.
Structure Type:	Steel girder and reinforced concrete bridge faced in logs
FHwA Structure No.:	8800-017P
Present Use:	Park road bridge.
Significance:	Bridalveil Creek Bridge is one of two "rustic style" park bridges which appear to be of log construction. Actually, the structure has a steel I-beam and reinforced concrete deck, and the logs only form the sides of the bridge and the guard rail. The design harmonizes well with the montane forest setting.
Project Information:	This document was prepared as part of the Yosemite National Park Roads and Bridges Recording Project, conducted by the Historic American Engineering Record in summer 1991. Richard H. Quin, Historian

II. HISTORY

This is one in a series of reports prepared for the Yosemite National Park Roads and Bridges Recording Project. HAER No. CA-117, YOSEMITE NATIONAL PARK ROADS AND BRIDGES, contains an overview history of the park roads. In addition, HAER No. 157, GLACIER POINT ROAD, contains more specific information on the road on which the structure is located.

HISTORY OF BRIDALVEIL CREEK BRIDGE

Bridalveil Creek Bridge carries the Glacier Point Road over Bridalveil Creek, 2.5 miles east of Badger Pass. The short span appears to be of rough log construction, but the logs conceal a steel I-beam frame and reinforced concrete substructure. This naturalistic treatment is typical of the National Park Service's proclivity for "rustic style" structures in the 1920s and 1930s. The bridge was built as part of the 1930s reconstruction of the Glacier Point Road.

The Washburn-controlled Yosemite Stage and Turnpike Company completed the Wawona Road [HAER No. CA-117d] from Mariposa via the South Fork of the Merced to Yosemite Valley on 22 July 1875. Hoping to entice more visitors to uee the toll road, in the late 1870s the company opened up a saddle trail from the road to Glacier Point for its splendid view of Yosemite Valley. The rough saddle trail proved popular, and the Washburn cartel hired John Conway to reconstruct the trail as a wagon road to Glacier Point. Conway completed the fourteen-mile wagon road in 1882 at a cost of $8,000. Travelers on saddle horses could continue from Glacier Point to the Valley floor via the Four-Mile or Ledge trails.[1]

No infcrmation was located concerning the first crossing at Bridalveil Creek; a bridge probably crossed the creek, although there may have been a ford. A bridge did cross the creek by the early twentieth century; this span was replaced by four 24' culverts in October 1930.[2]

Plans for a reconstructed Glacier Point Road were prepared in 1930 and 1931 by the Bureau of Public Roads, an agency of the United States Department of Agriculture. The BPR also designed the new "rustic style" bridge across Bridalveil Creek and let the contract to contractors Nelson and Wallace of Escondido, California, who submitted the low bid of $10,359.50.[3] The bridge designers estimated that the following materials would be used in its construction:

Class "A" concrete	9 cu. yds.
Class "D" concrete	25 cu. yds.*
Reinforcing steel	6,000 lbs.
Structural steel	19,000 lbs.
Masonry	335 cu. yds.
Structure excavation (removed)	315 cu. yds.
Log rails	125 lin. ft.
Log stringers	68 lin. ft.[4]

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* Classes of concrete refer to the amount of Portland cement used in the mixture, with Class "A" having the highest proportion and so on.

The contractors established a construction camp on Bridalveil Creek near the bridge site, and crews began work on the excavation for the bridge's footings on 23 June 1933. Work went quickly; by the end of July, the west abutment was finished, and work on the east abutment was underway. All the masonry work, including the construction of the wing walls, was finished by the end of August, and the steel was set in place. In September, the roadway was surfaced, and the 36" diameter redwood log stringers were affixed to the sides of the bridge. The bridge was completed on 4 October 1933, fifteen days ahead of schedule. (Most other Yosemite road and bridge projects were subjected to considerable delays.)[5]

The bridge was originally fitted with a timber guard rail of yellow and lodgepole pine, with two horizontal logs supported by six squat log pylons on each side of the bridge. Later, these guard rails were replaced with large logs bolted to the sides.

The Bridalveil Creek Bridge is 35' long, with 20' approaches on either side; the clear span is 30'. The structure is 29' wide, with ends flaring to 37' apart. The bridge is built on a 15° skew. The structure rests on cement rubble masonry abutments constructed from granite boulders. The reinforced Class "D" concrete deck slab rests on five steel I-beams resting on four cross girders. The bridge seats and back walls are of Class "A" concrete construction. Debarked yellow pine log stringers, 36" in diameter, conceal the structural steel from view. More logs, bolted to the deck on the sides, form the present guard rail.[6] The structure is rated for a live load of two fifteen-ton trucks plus 30 percent allowance for impact.

The structure is one of two "fake log" rustic style bridges in the park. The El Capitan Bridge [HAER No. CA-101] across the Merced River in Yosemite Valley is a larger span of the same general design. The bridge appears to be in good condition; however, the Federal Highways Administration is now (1992) urging that the Glacier Point Road be widened and reconstructed, and the bridge may face replacement.

III. ENDNOTES

1. "Notes from Big Tree Station," *Mariposa Gazette*, 16 August 1879, 3; "New Saddle Train Route," *Mariposa Gazette*, 12 April 1879, 3; Linda Wedel Greene, *Yosemite, The Park and Its Resources: A History of the Discovery, Management, and Physical Development of Yosemite National Park, California*. 3 vols. (Washington, D.C.: National Park Service, 1987), 60-61.

2. Charles Goff Thomson, Superintendent's Monthly Report, October 1930, 4.

3. T. M. Roach, "Final Construction Report, Project Yosemite E S-A1, Bridalveil Creek Bridge, Glacier Point Road," (San Francisco, CA: United States Department of Agriculture, Bureau of Public Roads, 21 March 1934), 2-6.

4. United States Department of Agriculture, Bureau of Public Roads, "Bridge Over Bridal Veil Creek, Glacier Point Road, Yosemite National Park Proj. 5-A1," construction drawing RG-384-A, October 1932.

5. Thomson, Superintendent's Monthly Report, June 1933, 9; Superintendent's Monthly Report, July 1933, 9; Superintendent's Monthly Report, August 1933, 7-8; Superintendent's Monthly Report, September 1933, 8; Superintendent's Monthly Report, October 1933, 9; BPR construction drawing RG-384-A.

6. Construction information taken in part from BPR construction drawing RG-384-A. Measurements confirmed by HAER field survey, August 1991.

IV. BIBLIOGRAPHY

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Greene, Linda Wedel. *Yosemite, The Park and Its Resources: A History of the Discovery, Management, and Physical Development of Yosemite National Park, California.* 3 vols. Washington, D.C.: National Park Service, 19B7.

Roach, T. M. "Final Construction Report, Project Yosemite E S-A1, Bridalveil Creek Bridge, Glacier Point Road." San Francisco, CA: United States Department of Agriculture, Bureau of Public Roads, 21 March 1934.

Thomson, Charles Goff. Superintendent's Monthly Report, October 1930

--Superintendent's Monthly Report, June 1933.

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--Superintendent's Monthly Report, August 1933.

--Superintendent's Monthly Report, September 1933.

--Superintendent's Monthly Report, October 1933.

CONSTRUCTION DRAWING

United States Department of Agriculture, Bureau of Public Roads. "Bridge Over Bridal Veil Creek, Glacier Point Road, Yosemite National Park Proj. 5-A1." Construction drawing RG-384-A, October 1932.

OTHER PRIMARY SOURCE DOCUMENTS

"New Saddle Train Route." *Mariposa Gazette*, 12 April 1879, 3.

"Notes from Big Tree Station." *Mariposa Gazette*, 16 August 1B79, 3.